UNITED STATES BANKRUPTCY COURT
DISTRICT OF DELAWARE

IN RE:	.	Case No. 01-1139 (JKF)
	.	
W.R. GRACE & CO.,	.	
et al.,	.	USX Tower - 54th Floor
	.	600 Grant Street
	.	Pittsburgh, PA 15219
Debtors.	.	
	.	January 16, 2008
. . . . .		9:40 a.m.

TRANSCRIPT OF TRIAL
BEFORE HONORABLE JUDITH K. FITZGERALD
UNITED STATES BANKRUPTCY COURT JUDGE

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I N D E X

(Audio malfunction; speakers at microphones 2 and 3 difficult to discern)

THE CLERK: All rise.

THE COURT: Good morning. Please be seated. This is the continuation of the personal injury estimation trial in W.R. Grace, 01-01139. The participants I have listed by phone are Jennifer Whitener, Jarrad Wright, Daniel Hogan, Katharine Meyer, John O'Connell, John Phillips, Igor Volshteyn, John Demmy, Gentry Klein, John Wollen, Terence Edward, David Parsons, Matthew Russell, Steven Mandelsberg, James Rieger, Peg Brickley, Darrell Scott, Alex Mueller, Natalie Ramsey, Lewis Kruger, Jonathan Brownstein, Andrew Craig, David Mendelson, Ellen Ahern, Dhananjay Patwardhan, Stephanie Kwong, Daniel Speights, Marti Murray, Brian Mukherjee, Michael Davis, Van Hooker, William Corcoran, Janet Baer, Jonathan Lewinsohn, Mark Hurford, Walter Slocombe, Peter Lockwood, Elihu Inselbuch, Jeanna Rickards, Bernard Bailor, Leslie Kelleher, Theodore Freedman, Jeff Waxman, Guy Baron, Scott Baena, Jason Solganick, Christopher Candon, Joshua Cutler, Shayne Spencer, Peter Shawn, Tiffany Cobb, Theodore Tacconelli, Andrew Chan, Craig Gilbert, Robert Horkovich, Elizabeth Devine, David Beane, Alan Madian, Michael Lastowski, Sander Esserman, Timothy Cairns, Kirk Hartley, Debra Felder, Catherine Chen, Jacob Cohn, James Wehner, Beau Harbour, Edward Westbrook, Martin Dies, Francis Monaco, Robert Guttmann, Mitchell Sockett and Jeremy

Hollembeak. I'll take entries in Court.

MS. HARDING: Barbara Harding, on behalf of the debtors, Your Honor.

MR. BERNICK: David Bernick for Grace.

MR. STANSBURY: Brian Stansbury for Grace.

MR. McMILLAN: Scott McMillan for Grace.

MR. FINCH: Nathan Finch for the Asbestos Claimants' Committee, Your Honor.

MR. INSELBUCH: Elihu Inselbuch for the Asbestos Committee.

MR. LOCKWOOD: Peter Lockwood for the Asbestos Committee.

MR. MULLADY: Raymond Mullady for the Future Claimants' Representative.

MR. ANSBRO: Good morning, Your Honor. John Ansbro, also for the FCR.

MR. KRIEGER: Good morning, Your Honor. Arlene Krieger from Stroock & Stroock & Lavan on behalf of the Official Committee of Unsecured Creditors.

MR. HOROWITZ: Good morning, Your Honor. Gregory Horowitz from Kramer, Levin, on behalf of the Official Equity Committee.

MR. KRAMER: Good morning, Your Honor. Matt Kramer, on behalf of the Property Damage Committee.

THE COURT: Excuse me one second. Okay. Thank you.

Good morning.

MR. FRANKEL: Good morning, Your Honor. Roger Frankel for the Future Claimants' Representative.

THE COURT: Thank you.

MR. RASMUSSEN: Good morning, Your Honor. Garrett Rasmussen for the Future Claimants' Representative.

MR. KIM: Good morning, Your Honor. Antony Kim for the FCR.

THE COURT: Anyone else entering an appearance? Okay. Ms. Harding?

MS. HARDING: Thank you, Your Honor. The debtors would like to call Dr. Howard Ory, please.

THE COURT: Dr. Ory?

THE CLERK: Could you raise your right hand, please?

DR. HOWARD WILLIAM ORY, DEBTORS' WITNESS, SWORN

THE CLERK: Please be seated.

DIRECT EXAMINATION

BY MS. HARDING:

Q Good morning, Dr. Ory.

A Good morning.

Q Could you state your name for the record, please?

A Howard William Ory.

Q And what is your (indiscernible)?

A I'm an epidemiologist.

Q Where have you spent the majority of your career working

as an epidemiologist?
A At the U.S. Centers for Disease Control in Atlanta.
Q The CDC, is that commonly referred to? The CDC?
A Yes.
Q Where did you receive a degree in epidemiology?
A From the Harvard School of Public Health.
Q Now, you are also a medical doctor, correct?
A That's correct.
Q Where did you receive your medical degree?
A Tufts University Medical School.
Q Are you board certified or licensed to practice medicine?
A I'm board certified in preventive medicine and licensed to practice medicine in Georgia.
Q How did you come to be involved in this matter?
A Um --
Q If you recall?
A Well, I received a phone call from you asking if it would be possible, if I would consider looking into the issue of whether or not I could make an estimate of how much asbestosis occurred in the U.S.

MR. FINCH: Your Honor, before he gets into the substance of his testimony, she hasn't proffered him as an expert. I have some voir dire in his qualifications before she proffers him as an expert.

THE COURT: All right.

MS. HARDING: I was intending to go through his qualifications and training before I proffered him.

MR. FINCH: Okay. I thought she was going into the substance of his opinion.

THE COURT: All right. Go ahead.

Q The question I think I had asked you, Dr. Ory, is do you recall why it if that you were contacted by me?

A I believe it was because I did a -- performed a similar function with regard to silicosis in a case before Judge Jack.

Q Okay. Did you recall that I had seen your name in a footnote of an opinion?

A Yes. I -- the analysis that I did was cited in her opinion.

Q Now, before we go into all of your qualifications and training, I wanted to play for you, so you can listen, I'm going to ask you a question about it, some statements were made during oral argument on Monday in this case. So, if we could play that first clip?

THE COURT: Is the screen --

THE CLERK: It's on. It's --

(Audio played)

Q Dr. Ory, do you have opinions regarding the rates of asbestosis and the rates of mesothelioma in the United States?

A Yes.

MR. FINCH: Your Honor, he still hasn't been qualified him as an expert.

MS. HARDING: I'm not asking him to offer what his opinions are yet. I'm asking him to explain to the Court what the substance and the subject matter of his opinions will be.

Q And, Dr. Ory, is that the -- that kind of analysis that you did in this case that -- that actually attempts to estimate the incidence of asbestosis and mesothelioma currently and in the future? Is that right?

A That is correct.

Q Now, with respect to your qualifications to render opinions on those issues, how long did you work at the CDC, Dr. Ory?

A 23 years.

Q What was your main work at the CDC?

A Well, I'm an epidemiologist, and I did what epidemiologists do at CDC. I do disease surveillance, disease causation, disease prevention.

MS. HARDING: Put up Slide 2, please.

Q You prepared a series of slides in this case, is that right?

A Correct.

Q Do they accurately represent -- you've reviewed all of the slides that we might put on the board today?

A Yes, I have.

Q Do they accurately represent the opinions that you've reached in the case?
A They do.
Q And do you think they'll assist the Court in understanding your testimony?
A I hope so.
Q Okay. Just explain, essentially, what an epidemiologist does.
A Right. Well, the first thing an epidemiologist has to do is determine how many cases of something are occurring -- say, in the United States, and to determine -- and verify that those are actually real cases. And then -- that's sort of the enumerator. And then the denominator is that those cases occur in some population, so you estimate the incidence rate, say, of a disease in a population. And then, studying the distribution and causes of human disease, a large part of what we do is causal research, attempting to determine, for example, does asbestosis -- does asbestos cause mesothelioma? Does high blood pressure cause heart attacks?
Q Okay. I'm going to walk over and just ask you -- with respect to the top, count and verify the number of people with various diseases, is that often referred to as surveillance?
A That would be disease surveillance.
Q So, in disease surveillance at CDC, did you often have to verify cases before you could determine how much disease there

is?
A Absolutely. Very often we would be called and told there's an epidemic occurring somewhere, and it's sort of the first rule is you go out and you establish a case definition, and then you count how many cases of the disease are actually occurring.
Q When you count how many cases of the disease are occurring, how do you -- what kind of information do you use to verify that there are cases of disease in a particular population?
A Well, you would use all sorts, but generally you would use medical information, you would use medical charts, you would use laboratory information, and so forth.
Q In your 23 years at the CDC, did you or anyone else at the CDC, any other scientists, have you ever used litigation claims to verify the existence of disease?
A I never did, and I don't recall ever seeing an example like that.
Q Now, Dr. Ory, how many scientific papers have you authored?
A More than 100.
Q And do any of those papers involve asbestos?
A No.
Q Does the fact that none of the papers involve asbestos render you to be somehow (indiscernible) to this Court about

the incidence of asbestosis and mesothelioma in the United States?

MR. FINCH: Objection, Your Honor. That's a question for the Court to determine.

THE COURT: That is a question for the Court. That's an ultimate conclusion. Sustained.

Q Dr. Ory, in the course of your work at CDC, how often did you encounter diseases that you were asked to investigate their causes, their incidence, where you had not previously dealt with that disease before?

A Almost all the time. For example, when I first came to CDC I began to study the association of oral contraceptives and cervical cancer. Obviously I had no personal knowledge of oral contraceptives, and cervical cancer, my training is in internal medicine, so maybe I had seen a case or two of cervical cancer, but it was not a disease that I knew intimately. So, as we always do, as any epidemiologist would have to do, I had to learn the epidemiology of cervical cancer in order to study that association. The next thing I looked at was oral contraceptives and blood clots. And I certainly knew almost nothing about the clotting system, and so I had to learn the epidemiology related to blood clotting. Likewise, when I studied oral contraceptives and breast cancer, and ovarian cancer, and uterine cancer, those are not the purview of an internist. Those are the purview of a gynecologist. And so, I

had to learn all about the epidemiology of breast cancer, ovarian cancer, and cervical cancer. And so it is with every disease I looked at. When the director of CDC asked me to be on the panel overseeing the study of Agent Orange that CDC performed, I had to learn about Agent Orange. When the Director of CDC asked me to evaluate a report that the ATSDR had written on TCE, I had to learn about TCE.

Q Now, Dr. Ory, with respect to conducting your work as an epidemiologist, count and verify the number of people with diseases, estimate occurrence of disease, and compilations, the study of (indiscernible) causes, are there standard methodologies associated with the work of an epidemiologist in those areas?

A Yes, there are. And -- there certainly are.

Q And do you apply the same kind of methodology to the study of each different disease in the same way, or in a different way?

A No. They are more or less applied in the same way, just altered to account for the particular disease you're dealing with, but you're applying the same methods no matter what disease you're studying.

(Pause)

Q (Indiscernible) summarize some of your work at the CDC. I'm going to ask you just to (indiscernible) coordinate the nationwide disease surveillance activity. What was that?

A Every week every county in the United States submits data on disease occurrences, I think it's about 200 diseases, that occur, and it goes up through the county, to the state, to CDC, and it's collected and collated. And for part of my time at CDC I was in the unit that was responsible for coordinating that surveillance activity.

Q You also taught (indiscernible) CDC, is that right?

A Yes. At that same time, actually, I was -- for two or three years was responsible for overseeing the training of all incoming EIS officers, and generally through the rest of the time I was at CDC I was often involved in (indiscernible) continuing education courses for senior staff.

Q Now, you mentioned that you published over 100 --

A Yes.

Q -- scientific articles (indiscernible)?

A Yes.

THE CLERK: Excuse me. Could you switch to that mike? You're getting a little choppy.

THE COURT: You have to take the levelier (phonetic) off, or we're going to get --

(Pause)

Q Okay, Dr. Ory, I'm sorry. I think I was about to ask you about your publications. Can you just generally broadly characterize the types of publications and research that you did that was published in peer review literature?

A I published a lot of reports on causal epidemiology, that is determining whether or not, say, oral contraceptives cause breast cancer. I published reports on surveillance-related activities such as after we instituted surveillance at CDC to determine the complications arising from hysterectomy and tubal ligation I published on that subject.

Q Are your publications typically types of epidemiological studies, case control, or cohort, or that type of study?

A Yes. A lot of them are that. Some of the work that I did was quite similar to what I've been asked to do here. And in silica, where -- take information from one set of data and estimate what might happen in another set of data, applying that. I would call that modeling.

Q Okay. Could you show 2033, please? Now, this slide lists some of your professional affiliations, and I think you've already said that you're board certified in preventative medicine, and you're also licensed to practice, is that in Georgia?

A That's correct.

Q Okay. And what is the society of epidemiologic research?

A It's a society of epidemiologists.

Q Okay. So, it's other epidemiologists that are in that society?

A Yes.

Q With respect to the American Epidemiologic Society, is

that a society that you can just join, or do you have to be invited by the members of the society to join?

A You have to be invited and elected.

Q And the American College of Preventative Medicine, what does that body do?

A Well, they -- that's who certifies me in preventative medicine, and they do other activities in terms of prevention, trying to promote prevention in the United States.

Q Have you regularly given lectures to some of these groups?

A In the past, yes.

Q Okay. After you left the CDC, I think -- was that 1994?

A Yes. I left in '94.

Q What did you do upon leaving CDC?

A I went to work for the Prudential Center for Healthcare Statistics.

Q And what did you do for Prudential?

A I evaluated healthcare delivery information to try and use it to feed back and improve healthcare delivery.

Q Okay. And when you say healthcare delivery information, what kind of information were you reviewing?

A Well, for example, like looking at medical outcomes, and seeing if they were good outcomes or bad outcomes, and trying to look at, like, different physicians, and see who had the better rates, the kind of standard things that HMOs do these days.

Q Okay. When you left Prudential, what did you do next?
A Actually, while I was at Prudential I began -- I started doing independent consulting in epidemiology.
Q Okay. And have you been doing that ever since?
A Yes.
Q Okay. And has most of your consulting been in the area of litigation?
A Most of it has, yes.
Q Okay. Have you -- about how many times have you testified in Court, approximately?
A I -- don't hold me to this, but I'm saying 12, 15, somewhere in that order of magnitude.
Q Okay. Were you involved in the -- actually, let me ask you this -- generally what kind of subject matters have you consulted on and offered testimony in Court on in the past?
A I've consulted on breast implants, pharmaceuticals -- those are the two that jump to mind.
Q Okay. With respect to breast implants, were you involved in the Rule 706 panel and litigation before Judge Pointer?
A Yes, I was.
Q Okay. What was your role in that litigation?
A I was the testifying epidemiologist for the defense.
Q Okay. What opinion, or conclusion did you reach that you offered to that panel?
A In short, that the -- based on a giant body of

epidemiologic evidence, there was no association between breast implants and autoimmune diseases.

Q Did the Rule 706 panel agree or disagree with your conclusions?

A They agreed.

Q Dr. Ory, in the course of your consulting work have you also continued to consult for the CDC?

A Yes. From time to time the director of CDC would call me back to help with the -- on the issue of disease surveillance.

MS. HARDING: Okay. Your Honor, at this time I would like to proffer Dr. Ory as an expert in the field of epidemiology.

MR. FINCH: Brief voir dire?

THE COURT: All right.

VOIR DIRE EXAMINATION

BY MR. FINCH:

Q Good morning, Dr. Ory. My name is Nathan Finch. I represent the Asbestos Personal Injury Claimants' Committee. It's correct that you had never been recognized by a Court anywhere as an expert on the subject matter of asbestos-related diseases, correct?

A That's correct.

Q It's also correct that you have never treated a patient with mesothelioma since you were in medical school in the 1960's, and that was one patient, right?

A I may have seen patients with asbestosis and mesothelioma in medical school and internship.

Q But you haven't treated any of them since -- from then to now?

A That's correct.

Q And you've never been asked to render a diagnosis as to -- or, an opinion as to the cause of a particular person's mesothelioma or asbestosis, correct?

A In Court, that's correct.

Q And you've never -- you've never conducted a study on the epidemiology, or survey on the epidemiology of asbestos-related disease, correct?

THE COURT: I'm sorry. Would you repeat that for me?

MR. FINCH: Yes.

Q You have never personally conducted any studies on the epidemiology of asbestos-related disease, correct?

A That's correct.

Q And you have never published your opinions about the incidence of asbestosis in any kind of peer reviewed medical journal, correct?

A That's correct.

Q You've never published any opinions about the incidence or prevalence of any asbestos-related disease in any journal in the world ever, correct?

A That's correct. As it relates to asbestos.

Q As it relates to asbestos?
A Yes.
Q And you did not do a survey of all of the medical literature that exists in the world that has statistics about the incidence or prevalence of mesothelioma or asbestosis for purposes of doing your work here, correct?
A I've read an enormous amount of literature about asbestosis and mesothelioma, and -- asbestos, mesothelioma, and asbestosis.
Q So, you've read everything -- all the literature that you believe is relevant to this topic?
MS. HARDING: Object to -- object, Your Honor, to form. It's overly broad.
THE COURT: No, it's a fair question. The doctor can certainly answer --
A I've read the literature that, to me, appears relevant to this issue, yes.
Q You read the insulator studies that Dr. Selikoff, and the prevalence of asbestosis, and the incidence of mesothelioma, and those studies?
A Yes.
Q The Mt. Sinai studies?
A Yes.
MR. FINCH: That's all the voir dire I have.
THE COURT: Anyone else?

MR. ANSBRO: A couple of questions, Your Honor.

VOIR DIRE EXAMINATION

BY MR. ANSBRO:

Q Good afternoon, Dr. Ory.

A Good morning.

Q Good morning. Let's not get ahead of ourselves.

THE CLERK: Your name again, please?

MR. ANSBRO: John Ansbro for the FCR.

Q Just following up on a couple of Mr. Finch's questions, you've also not published any articles with respect to the plausibility of asbestosis, have you, sir?

A I don't know what you mean by the plausibility of asbestosis.

Q Plausible claims. I anticipate that you're going to testify here today, I've read in your report that you have drawn opinions about the number of plausible cases of asbestosis in the United States, correct?

A I just would like to separate the two. I am going to draw opinions about the plausible cases. I am not drawing an opinion about how many claims there are. I'm talking about how many medical -- medically plausible cases, how many human beings might actually have asbestosis, not how many people have claims for asbestosis.

Q You do, then -- we'll get to that in just a bit. But with respect to your opinions about the plausibility, medical

plausibility, you have not written any articles on that topic, correct?

A That's correct.

Q And with respect to the literature that exists over the past 20, 25 years on the topics of mesothelioma, epidemiology, and mesothelioma, causation of mesothelioma, causation of asbestosis, you have not been a reviewer, a peer reviewer of any of those articles either, have you?

A Could you hold that question? Could we go back to the previous question? Could you ask the previous question again? I want to expand my answer.

Q The question about plausibility of asbestos?

A Yes.

Q Asbestosis?

A Yes. Could you just read the previous question?

MR. ANSBRO: May we have it back?

(Pause)

Q Well, let me just -- my question was, if I'm recalling it right, that you had not authored any --

MS. HARDING: I think he just wants to hear the question back.

THE WITNESS: The previous question, not this one.

THE COURT: All right. You can't keep talking and have the Court reporter go back. So, either you have to be quiet and let her go back and get the record, or else you have

to re-ask the question. You can't do both. So, pick one.

MR. ANSBRO: May we go back to the question before I turned to the mesothelioma?

THE COURT: All right.

(Pause)

MR. ANSBRO: May I read what I've --

THE COURT: No, sir.

(Pause)

(Audio played back)

MS. HARDING: That's the video of Dr. Biggs.

UNIDENTIFIED ATTORNEY: That's the Biggs again.

THE COURT: I know. Cathy, do you not know how to do it?

THE CLERK: It's just not working, Your Honor.

THE COURT: Kevin, Cathy needs some help replaying a piece of the tape. Could you please come up? She said the system isn't functioning properly, and there are Court reporters here who are taking the record, but I can't use them because it's not the official transcript, so if you could please come up for a second? Thank you.

(Pause)

THE COURT: That was going back to nine o'clock yesterday, Cathy, not today.

THE CLERK: No. It went back to nine o'clock (indiscernible).

THE COURT: Okay. Well, what was playing before was Mr. Bernick.

THE CLERK: I have the right date (indiscernible).

THE COURT: All right.

(Pause)

THE COURT: Why don't we take a five minute recess? It's apparently going to take a few minutes to get this done, so we might as well get the system fixed. All right. Thank you.

(Recess)

(Audiotape played)

THE COURT: All right. Cathy, can you stop this so I can call the case back on the record?

THE CLERK: Pardon me?

THE COURT: You need to stop it so I can get the case back on the record. All right. Is everyone back?

UNIDENTIFIED SPEAKER: I believe so. We're ready to proceed, Your Honor.

MS. HARDING: We're ready to proceed.

THE COURT: All right, Cathy. I think we can start again, because it will come up quickly enough at this point. Doctor and Mr. Ansbro, are you ready?

THE WITNESS: I am.

THE COURT: All right. Okay, Cathy.

THE CLERK: Do you want me to play it?

THE COURT: Yes. I want you to -- do you know where the question is? Do you have go to --

(Audiotape played)

MR. ANSBRO: We can stop there.

THE COURT: Now, Cathy, can you stop, please, and go to the -- go to where you can start recording again. All right, Doctor, now you can --

CONTINUED VOIR DIRE EXAMINATION

BY MR. ANSBRO:

A It was the question -- you asked that question, what was the medical plausibility of asbestosis. I didn't -- actually, I don't understand what that question meant.

Q I was asking you about whether you had published any articles on the topic of the medical plausibility of the incidence of asbestosis in the United States, let's say.

A I still don't understand the question.

Q What is it about my question that you don't understand?

A Are you asking me if I published articles about the incidence of asbestosis in the United States?

Q We'll start with that one. Sure.

A I have not.

Q Okay. Now, with respect to what you characterize as the medical plausibility of cases of asbestosis, which is the topic of your report here, have you published any materials outside of this case on this topic?

A Well, let me --

MS. HARDING: I'm just going to object to the (indiscernible) term, medical plausibility. I think that there's a little bit of a disconnect. I don't --

THE CLERK: We're not picking you up.

MS. HARDING: -- I think it mis-characterizes --

UNIDENTIFIED SPEAKER: She's not -- you have to speak into the mike.

THE COURT: You have to speak into a microphone.

MS. HARDING: I think it mis-characterizes the report in terms of the use of medical plausibility. I think he's -- plausibility of --

THE COURT: The witness has already said he doesn't know what you mean by medical plausibility, so the objection is sustained.

Q Dr. Ory, in your report you make reference to what you characterize as medically plausible incidence of asbestosis, yes?

A Yes.

Q What did you mean by that?

A I mean a number of cases that could reasonably exist in the United States, the number of actual cases of asbestosis that could reasonably be held to exist in the United States.

Q Okay. And just so that we're clear, then, Doctor, so when you -- when I use the term, and as you use the term medically

plausible, you're referring to a case that could reasonably exist? That's a real case that's been diagnosed and is -- that's asbestosis --

A And I'm thinking here of sort of, like, when I count -- when I did a study of oral contraceptives and breast cancer, I used the SEER data to tell me how many cases of breast cancer existed in the United States as diagnosed and collected -- as diagnosed by physicians and then collected by SEER and compiled that way.

Q Okay. In this case, then -- let me -- when you use the term medically plausible, then, are you suggesting that that's something other than the patient actually has the disease by a reliable diagnosis?

A No. That's what I'm suggesting, that the patient has the disease by a reliable diagnosis by a physician.

Q And am I correct in understanding that for cases that you refer to as not medically plausible, in your view, is the case that they do not have the disease, correct?

MS. HARDING: Object --

A All I'm talking about is how many cases -- I'm making an estimate of the number of cases, as we've said before, that could be diagnosed in a reliable fashion by a physician. What the other cases are, if there are cases above that, I don't know what they are, but they don't fit my definition. If there are, for example, claims above that that suggests there are

more cases, I don't know what those might be.
Q Understood. Now, Doctor, I'm correct, am I not, that you have not examined any of the current claimants in this case, the claimants that have pre-petition lawsuits against Grace? You have not undertaken any review of their medical records?
A That's correct.
Q And you have not reviewed the medical records that were submitted in connection with the PIQ process, correct?
A That's correct.
Q With respect to the RAND claiming data, you make some reference there to the RAND claiming information in your report. You have not undertaken a review of any of the medical records of any of those claimants, have you?
MS. HARDING: Your Honor, I'm going to object to this line of questioning. This is supposed to be a voir dire about his qualifications to the analysis.
THE COURT: You're getting into the merits. That's sustained.
MR. ANSBRO: That's all I have, then, Your Honor.
THE COURT: All right. Anyone else? Ms. Harding?
MS. HARDING: Your Honor, I proffer the witness as an expert in the field of epidemiology. I don't know if there's an objection.
THE COURT: Anyone objecting? There is no objection. The witness will be permitted to offer an expert opinion in the

field of epidemiology.

CONTINUED DIRECT EXAMINATION

BY MS. HARDING:

Q Dr. Ory, you conducted several different analyses concerning mesothelioma and asbestosis rates of incidence in the United States in this matter. Is that correct?

A That's correct.

Q I'd like to just walk up to the board and talk about the first inquiry. Okay?

A Okay.

THE CLERK: I'm sorry (indiscernible).

A Before you begin, could I ask you a question? There was a line of questioning you started down before we were interrupted by the qualification question. Did you want to go back to that?

Q I frankly don't remember what it was.

A About the opening statements yesterday.

Q No, we already -- I --

A Okay. About the opening --

Q I think I've already asked you that.

A Okay.

Q Yes. For now. I'm going to come back to that. Thank you --

A Okay.

Q -- Dr. Ory. The first analysis that you looked at in this

case is you attempted to estimate the incidence of male asbestosis that occurred in the U.S. from 1989 to 2001. Is that correct?

A That's correct.

Q How did you go about conducting that analysis? What's the first step that you took?

A Well, the first step was attempting to look in the United States to see if there was any information about the incidence of asbestosis in the U.S., and I couldn't find any, and almost anyone who has written on it said there are no reliable information on that subject.

Q Okay. Was that the end of your inquiry? Were you kind of stuck?

A No. I began to think of an alternative way to do it. I know that there's excellent information in the United States on mesothelioma incidence. I know that mesothelioma incidence is certainly a proxy for asbestos exposure. That is the whole guts of the Nicholson projection, for example, is based on that fact. And so, I know that asbestosis and mesothelioma are caused by the same substance, and I figured there must be a way to derive a ratio of asbestosis to mesothelioma.

Q Okay. The deriving ratios and calculating ratios, and investigating studies, and looking for ratios, is that the work of epidemiologists?

A It's probably the bread and butter of epidemiology. Every

study you read has a rate ratio in it. Every occupational -- every occupational epidemiologic study probably uses an SMR, which is called a standardized mortality ratio, so ratios are ubiquitous in epidemiology.

Q Is there any precedent in the scientific literature for the creation of such a ratio between asbestosis and mesothelioma? The reason I ask that question is because you've -- in your deposition you were asked questions about whether what you did was novel. And then I think you explained that, yes, generally, it was. But with respect to the idea and the scientific credibility of doing it, is there any precedent for that?

A Again, as I mentioned earlier, the entire Nicholson analysis is based on ratios. Nicholson mostly didn't have available exposure data, and so he made ratios of various levels of mesothelioma rates in different occupational groups, and used that to estimate the exposure. So, in this field of asbestos, and looking at future illness, there is considerable precedent for doing this.

Q Once you decided upon your methodology, what did you do next?

A I needed a database that had reliable, accurate, and complete information on mesothelioma, and asbestosis, to create such a ratio, and from previous work that I had done at the CDC, I knew of the Boston Collaborative -- the BCDSP, the

Boston Collaborative Drug Surveillance Program, and I knew they maintained a database that would probably have this kind of information.

Q Okay. Could you tell the Court a little bit about -- is it the GPRD? Is that correct?

A Right. The --

Q What kind of database is it? What does it collect?

A Right.

Q What kind of information? And where does it collect it from?

A Right. The people in Boston work with the people in the U.K. In the U.K., the general practitioners are the gatekeepers of healthcare, much like an HMO in this country, at least for the National Health Service. And so, they have information on the entire medical treatment of all the people in their practices. And starting about 1989, this information was computerized, and constantly validated, and massaged, and made to be useful for epidemiology. I think currently there's some 500 epidemiologic studies published from the GPRD database. So, this is a highly reliable, accurate, complete, validated data set in the U.K.

Q Why was it particularly suited, or was it particularly suited for your purpose?

A Well, the main thing was after one phone call I determined that, yes, they had information on both mesothelioma and

asbestosis in numbers sufficient enough to allow me to make a fairly robust estimate.

Q Okay. So, did you use standard methods in creating this -- the ratio between asbestosis and mesothelioma with respect to the GPRD?

A Very standard in the sense that I counted the cases of mesothelioma -- the incident cases of asbestosis and I counted the incident cases of mesothelioma, and divided the two numbers and came up with a ratio. That's pretty straightforward.

Q Okay.

MS. HARDING: Could you show 2036, please?

Q Dr. Ory, could you take a look at this? Is this the chart that appears on -- 2036, is this an accurate representation of the -- of your -- the conclusions and the final result of your analysis of the GPRD for a ratio of asbestosis to mesothelioma?

A Yes. This looks like Table 1 in my report, and the main part of it, really, is highlighted in yellow. There were 751 incident cases of asbestosis in men, there were 794 incident cases of mesothelioma in men in this time period. That gives a ratio of .95, and that -- and I then broke it down further by age and time period, and the ratio didn't change at all. I made sure there was no confounding by age, or time trends. The unadjusted ratio and the adjusted ratio are both .95.

Q What does the ratio of .95 to one, asbestosis to mesothelioma, within this population, tell you?

A I means, essentially, that in this population essentially for every person diagnosed with mesothelioma, there will be about one, or slightly less than one diagnosed with asbestosis.

Q Slide 2036, I think I asked this already, but I want to just double check. It accurately reflects the conclusion that you reached in the analysis that you did with respect to the ratio of asbestosis to mesothelioma in the GPRD. Is that correct?

A Yes.

MS. HARDING: Okay. Your Honor, the debtors would move into Evidence GG-2036.

THE COURT: It's admitted.

UNIDENTIFIED ATTORNEY: No objection.

UNIDENTIFIED ATTORNEY: No objection, Your Honor.

Q Dr. Ory, in getting to the ultimate question here, which was what is the incidence of asbestosis in the United States from 1989 to 2001, what did you do next with respect to the ratio that you had derived from the GPRD data?

A Well, I looked to see if the mesothelioma incidence in the U.K. was higher or lower than it is in the United States, and determined that the incidence in the U.K. was almost two and a quarter, two and a half times higher than that in the U.K.

THE COURT: Wait. I'm sorry. Would you say that again?

THE WITNESS: My answer?

THE COURT: Yes, please.

THE WITNESS: looked to see if the incidence of mesothelioma in the United Kingdom and in the GPRD was higher or lower than the incidence of mesothelioma in the United States.

THE COURT: Yes.

Q Why did you do that?

THE COURT: No, I understand that that. I just didn't know which was higher, the U.S. or the U.K.

THE WITNESS: The U.K. is higher.

THE COURT: All right. Thank you.

Q And why did you look for that, and what did the fact that it was higher tell you?

A I wanted to make sure that the ratio that I developed was not an underestimate. I wanted to make sure that the ratio that I developed was at least equal to the ratio in the United States, or an overestimate. And since asbestosis and mesothelioma -- asbestosis is more dose dependent mesothelioma, so if the mesothelioma rates are higher, I know the asbestosis rates are probably even higher than that, so my opinion is that the .95 to one ratio that I have developed in the U.K., in fact, over represents the ratio in the United States.

Q It was suggested in your deposition, Dr. Ory, that the GPRD data did not capture as many asbestosis cases that were actually occurring in that population. What is your opinion

with respect to that criticism?
A Well, first of all, the GPRD, you know, is a large study. It has -- it covers information on three million people. And secondly, I now have compared the proportion of asbestosis cases that the GPRD collects relative to that proportion -- relative to the number in the U.K., and I know that the proportion that the GPRD collects is higher. I'm not saying this very clearly. The GP -- let me start again, please?
Q Sure. That's fine. It's a difficult concept.
A The GPRD represents about 3.7 percent -- the GPRD monitors about 3.7 percent of the people in the United Kingdom. If -- so, if the number of asbestosis cases that the GPRD collects is higher than 3.7 percent of the cases in the U.K., then I know that the GPRD is not under representing asbestosis. And I have made that comparison, and, in fact, the GPRD collects about two-and-a-half times as many cases as you would expect proportionately.
Q Okay.
A Sorry. That was not --
Q That's okay. Once you were certain that the ratio from the U.K. did not -- would not underestimate the number of asbestosis cases in the United States, what did you do to derive or calculate the incidence of asbestosis in the United States?
A As I said, we knew the mesothelioma data in the United

States is very good, so I used the SEER mesothelioma data, derived an estimate of the total number of mesotheliomas occurring in the United States between 1989 and 2001, and then applied the -- and that number was about 29,000, and then I applied the .95 to one ratio to that, and that yielded about 27,970, or about 28,000 cases of asbestosis.

Q And what time period would that cover?

A That's 1989 to 2001.

Q Before I ask you a little bit more about the final analysis, the SEER data, you mentioned the SEER data, that's the data that you used to -- for the incidence of mesothelioma in the United States, is that right?

A That's correct.

Q Okay. Is that data set a reliable data set for this purpose?

A SEER data is considered the gold standard of cancer surveillance in the United States.

Q Have you read many of the expert reports in this case, both from the debtors as well as from the future claimants and the asbestos claimants?

A Yes, I have.

Q Okay. Are you aware whether or not the -- all of the experts in this case used the SEER data with respect to mesothelioma?

A All the experts do. The ones I've read, and certainly

everyone who writes about this subject, and the literature also uses SEER data.

MS. HARDING: Could you put up 2037, please?

Q Dr. Ory, if you'll look at this? Is 2037, the table that appears there, does that accurately reflect your final analysis with respect to the mesothelioma -- I'm sorry -- the asbestosis mesothelioma ratio and the incidence of asbestosis in the United States from 1989 to 2001?

A Yes, it does.

MS. HARDING: Your Honor, we would move 2037 into Evidence.

MR. ANSBRO: No objection.

THE COURT: It's admitted.

THE COURT: Cathy, can you by any chance move that piece of white paper? I can't see the clock figures, so I can't get an estimate of -- thank you -- of the slide numbers. Thank you. Of the clock counter.

Q Dr. Ory, moving on to task two, and I'm going to pull this up first and then I want to ask you some questions before we start. You were asked some questions in the voir dire exercise about claims and cases, and I want to try to get the terminology right before we start this discussion, because it can get confusing, as you and I know from talking about this. What is a case? When you talk about a case, what are you talking about?

A I'm talking about a person who has asbestosis diagnosed by a physician.
Q Okay. And when you talk about plausible number of cases, that's exactly what you mean? Is that right?
A Yes.
Q Okay. What was your task, or what inquiry did you take to -- with respect to number two here?
A In trying to estimate the plausible number of individuals with the disease asbestosis among the Grace claims, I used two data sets. I used what I referred to as the Grace historical claims data, and you may give it a more proper name, and the RAND report on individual claimants -- the RAND report on individual claimants. And putting those two -- using the information from both those data sets, I was able to estimate that there are approximately 380,000 claims for asbestosis in 1989 to 2001 among men.

MS. HARDING: Could you put up 2040, please?

Q Doctor, what does 2040 reflect?
A 2040 reflects, by time period, the number of claims filed, and the number of cases that I consider that we're referring to as plausible, medically diagnosed cases of asbestosis. I'm sorry. I'm color blind. You'll have to tell me what color the bar on the right is.
Q The bar on the right is orange, and the one on the left is blue.

A Blue. Right. The orange line represents the claims for asbestosis, and the blue line represents plausible medical cases. And basically, if you look at the total, that's the 380,000 cases, and that's the 28,000 of people who could plausibly have asbestosis, and that ratio is 14 to one. There's 14 times more claims than there are plausible cases. Or, you can flip that around, and it's 7.4 percent of the claims could plausibly be medically plausible cases. I'm sorry. I used the word twice.

Q Dr. Ory, does this exhibit, 2040, accurately represent your analysis of the plausible number of asbestosis cases in the United States as compared to the number of claims for asbestosis that have been made?

A It does.

MS. HARDING: Your Honor, we would move 2040 into Evidence.

MR. FINCH: No objection, Your Honor.

MR. ANSBRO: No objection, Your Honor.

THE COURT: It's admitted.

Q Dr. Ory, did you then attempt to -- did you then actually apply the same ratio to the claims in this bankruptcy matter?

A Yes. That's exactly what I did.

Q And what did your analysis, what was the conclusion of your analysis?

A I think you have a slide. Could you --

Q Yes. It's -- I'm sorry. 2041.
A I was informed that there was 63,400 claims against Grace where I -- I forgot -- the PIQ was, where the PIQ was filled out. And so, of those 63,400 claims, 7.4 percent of them is 4,800, so that would represent my best estimate of medically plausible people who could plausibly have asbestosis.
Q Okay. With respect to the actual number of claims in the bankruptcy against Grace, current claims in a bankruptcy against Grace, you relied upon data that you were provided by ARPC with respect to that number, correct?
A That's correct.
Q And you are not offering any opinion about whether that number should be higher or lower, correct?
A That's correct.
Q Okay. With respect to the ratio that should be applied to the claims that had been filed against Grace, and that are before the Court, do you have -- can you explain again, just quickly, what that ratio would be?
A That ratio is 7.4 percent.
Q Okay.
A That is the -- derived from the previous slide. That's the -- from 1989 to 2001, that's the 14 to one ratio, or seven percent applied here. I have had an afterthought that if you go back to the previous slide you see that the -- in the time period closest to where we are now, the ratio -- that ratio,

actually, is 20 to one, not 14 to one. I could have applied that ratio too. It would, in some ways, make more sense. But again, being conservative on this issue, I just took the ratio of that from the whole time period.

Q Actually, I was going to ask you, did you do anything to validate or confirm your conclusion that you had not underestimated the plausible number of disease cases with respect to Grace claims, and is that -- is that what you did?

A That would be my answer to that question.

Q Okay. Can you explain one more time why it is that that confirms, in your mind, as a scientist, that you have not underestimated the number of plausible cases of disease in the Grace claim population?

A Well, if I took the estimate of 20 to one, I would -- that was from the most recent time period, which is probably most applicable to the cases still -- whatever the words are -- still in settlement, or -- I'm not sure what the right words are -- pending, still pending. So, if I took the ratio from the most recent time period, which would probably be more relevant, that would have been a five percent ratio, and I would have applied five percent instead of seven percent, and gotten a number below 4,800. So, 4,800 is not a low estimate.

Q With respect to Exhibit 2041, does it accurately reflect your conclusion with respect to the plausible Grace asbestosis claims compared to total Grace asbestosis claims with respect

to plausible numbers of disease cases?

A It does.

MS. HARDING: I would like to move 2041 into Evidence, Your Honor.

UNIDENTIFIED ATTORNEY: No objection, Your Honor.

MR. FINCH: Your Honor, the chart says asbestos claims, not asbestosis claims.

THE COURT: Yes. I believe the title needs to be corrected, and I will understand that the title should say Grace asbestosis claims compared to Grace asbestosis claims, not asbestos claims. With that correction is there nay objection?

MR. FINCH: No, Your Honor. Just for -- I guess this is Mr. Bernick's (indiscernible) rule, these are demonstrative exhibits coming into Evidence. I am not objecting to them coming in for demonstrative purposes. When my experts are on the stand I'd tend to do a similar sort of thing. So, what's good for the goose is good for the gander, as long as the expert confirms this is what his conclusions are.

THE CLERK: Stay close to the microphone, please.

THE COURT: Right now there is no objection to Exhibit 2041. It is admitted.

MS. HARDING: Your Honor, just to clarify, I -- we're moving to admit the demonstratives that Dr. Ory has confirmed are the accurate results of his analysis, and not just

everything. Only the ones that reflect his analysis and the underlying analysis and conclusions that he reached from his analysis.

THE COURT: Yes.

MR. FINCH: With the understanding that they're being offered for demonstrative purposes.

MS. HARDING: No. They're being moved into Evidence.

THE COURT: Well then, they're summary charts, because obviously that's all they can be is summary charts.

MS. HARDING: Yes.

MR. FINCH: With that understanding, there's no objection.

THE COURT: All right.

Q Dr. Ory, before we move away from Exhibit 2041, I just want to clarify something that I think may have caused a little confusion earlier on. When you were offering this testimony and you've rendered your opinion, you are looking at how many of the claims, based on your analysis of how many asbestosis cases there actually are in the United States could have been real disease cases. You're not rendering an opinion about whether or not the claim is otherwise valid in some way legally with respect to exposure, or some other requirement of a legal claim, correct?

A That's correct.

Q Dr. Ory, you were next --

A Everything just went dark.
Q -- conducted an analysis of the future incidence of mesothelioma and asbestosis in the United States. Is that correct?
A That's correct.
Q Okay. I'm going to --
(Pause)
Q Let's talk, first, about your analysis of the future mesothelioma incidents in the United States. How did you go about conducting that analysis?
A I looked at all the projections of -- all the projections of mesothelioma -- future mesothelioma in the United States, and then I compared them with what the actual SEER and now SEER/CDC shows on the actual number of mesotheliomas occurring in the United States. So, for example, Dr. Nicholson, in 1992, he -- I'm sorry -- 1982, he made a projection, and probably a bell-shaped curve is familiar to everybody in the room. And I was impressed that in 1982 he made a projection that showed there would be 3,000 cases -- wold peak at about 3,000 in the United States in the year 2002. And the curve had a particular shape. And when I looked at the actual SEER data, and compared it to Dr. Nicholson's projection, I was struck that the shape of the curve was very close to Dr. Nicholson's shape, and the only difference was the amplitude. Dr. Nicholson said the curve would peek at 3,000 cases, it actually peaked around

2,500. In other words, I compared his projection made in 1982 to the actual data that -- the projections that he made of the number of cases that would occur in 2002, and I compared that with the actual number of cases that occurred in 2002, and noted they were about 500 apart, but that the shapes of the curve were very similar.

Q Could you possibly show us that? You've drawn it for me before, and it helps me understand it. I think it might help the Court if you could show what the Nicholson --

A Right.

Q -- projection was, and then what the real data show.

A I'm sorry. So, starting in the -- in 19 --

THE CLERK: You need to use the hand mike.

A So, in 1982, Nicholson (indiscernible), and basically --

THE CLERK: I don't think we're picking you up.

A (Indiscernible).

THE COURT: I hear it, too, Cathy. He must not be coming through your system.

THE CLERK: (Indiscernible).

THE COURT: The deck.

THE COURT: Doctor, I don't know whether this microphone will stretch over to where you are going. Will you see whether -- it should pull up and out.

(Pause)

THE COURT: But you have to get rid of the handheld

mike -- or it will cause the feedback.

THE WITNESS: All right. Does this help?

THE WITNESS: Yes.

A Okay. So, in 1982, Nicholson made this projection, and this is about 2002, up here, and Nicholson said the curve for white males would peak at 3,000 mesothelioma cases in 2002, and it would more or less have a shape like this. Well, when you look at the SEER data, you can compare this, and generally, I'm smoothing this, generally the SEER data follows the shape of the Nicholson curve, the only difference being in 2002 the SEER data is just under 2,500. So, I was very impressed by this, that we have an accurate person who understood the epidemiology of the relationship between asbestos exposure and mesothelioma well enough to draw a curve that was this accurate 20 years into the future, and so, it seemed to me that there really -- and it's published, and I can understand how he did it, so it seemed to me this was the most appropriate projection to use. And I made a -- but I have to make a one-time amplitude correction for this of about 20 percent, since it's about 20 percent lower. So, Nicholson -- the rest of Nicholson's curve says there would be 55,000 more mesotheliomas occurring, and if you correct that one time for 20 percent, you would end up with this curve paralleling this curve, and being 20 percent lower, so you'd end up with 44,000 cases of mesothelioma, taking into account this -- keeping everything

the same about Nicholson except making this one-time amplitude correction.

Q A couple of questions with respect to what you said. You mentioned the word smoothing of the curve. And smoothing of the curve, what you mean by that is you did the best fit for the data, correct?

A Actually, I just used a five-year moving average just to -- so that the curve -- the real curve wouldn't look like a picket fence, just so that, visually, when you look at it you can just get a sense of the shape of the curve.

Q And epidemiologists do that kind of exercise regularly, correct?

A Yes.

Q Okay. And there's a method for doing that, correct?

A There are many methods.

Q Okay. And is -- would it be -- I'm going to have to approach.

(Pause)

Q Would it be improper to take a curve and then extend it out into the future without any data after having smoothed it a certain way and making it go in a certain direction? Do you understand what I'm saying?

A No, I don't.

Q Let me see if I can figure out how to say this. I'll ask it --

A Perhaps I could help? The smoothing of the curve was just simply for appearance's sake. It has nothing to do with the projection. The projection only depends on the one-time amplitude correction.

Q Okay. The smoothing of the curve had to do with the actual data, the observed data in the SEER data set, correct?

A That's correct.

Q Okay. And the smoothing had nothing to do with your actual projection, which we'll talk about in a few minutes?

A That's correct.

Q Thank you. Now, I want to ask you another question. You said you made a correction for the 20 percent over-prediction by Dr. Nicholson, correct?

A Yes.

Q Before conducting your projection into the future?

A That's correct.

Q Okay. Would it be appropriate, as an epidemiologist, to see the SEER data, understand that it underestimates the Nicholson projection, yet still use the Nicholson projection without somehow at least correcting for that under -- overestimate?

A I would think any time you make a model, you always want to constrain it to reality, and I have a distinct advantage that Nicholson didn't have, which is 20 years of SEER experience, and it would be incorrect, probably, not to

constrain his projection to reality.

Q Dr. Ory, Exhibit 2043 --

MS. HARDING: Could you put that up, please?

A Can we move this back so I can see the -- the conclusion board there?

(Pause)

MS. HARDING: That's good. Thank you.

Q Dr. Ory, Exhibit 2043, could you explain what that depicts?

A That depicts sort of what I was trying to explain on the board, that is, the top line, which I guess is blue, is Nicholson's -- that's Nicholson's projection. The left hand side of the bottom line is the smoothed SEER data, and then where it changes to open boxes, that is -- that's just applying the Nicholson rate changes to the one time amplitude correction, and showing what that curve would look like in the future.

Q Okay.

A That's a -- what the projected mesotheliomas would look like going into the future.

Q This is your analysis of the SEER data using the Nicholson projection methodology to come up with the total number of mesothelioma cases into the future in the United States. Is that right?

A That's correct.

Q Okay. Could you --

MR. FINCH: Your Honor, by cases he means mesothelioma incidences or deaths, not --

THE CLERK: Speak into the mike, please.

THE WITNESS: I mean incident cases of mesothelioma as recorded by SEER and CDC.

MR. FINCH: He's not talking about lawsuits or claims? I just wanted to make that clarification.

THE WITNESS: Right. I'm talking about men diagnosed with mesothelioma.

Q Dr. Ory --

MS. HARDING: Your Honor, we would move Exhibit 2043 into Evidence as an accurate reflection of Dr. Ory's analysis of the SEER data, and using the Nicholson projection into the future.

MR. ANSBRO: No objection, Your Honor.

MR. FINCH: No objection.

THE COURT: It's admitted.

Q Dr. Ory, the next slide, which is 2044, does that accurately reflect I think what you just told the Court, that your analysis predicts that there will be 44,000 men developing mesothelioma in the U.S. between 2003 and 2027?

A That's correct.

Q And that analysis takes account of your observations that are -- I'm sorry -- of the observations that are collected, the

actual cases of disease that are collected in the United States by the SEER data, is that right?

A That takes the actual SEER -- number of SEER cases and corrects the Nicholson projection using the actual number of SEER cases.

Q Okay.

MS. HARDING: We've move 2044 into Evidence.

UNIDENTIFIED ATTORNEY: No objection.

UNIDENTIFIED ATTORNEY: No objection, Your Honor.

THE COURT: It's admitted.

Q Dr. Ory, did you then conduct an analysis based on that projection as to the asbestosis incidents in the United States going forward?

A Yes, I did.

MS. HADING: 2045, please.

Q What was the result of that analysis?

A I applied the .95 to one ratio to the 44,000 cases, and came up with 42,000 cases of asbestosis that might be occurring in men from 2003 to 2007.

Q What is your -- did you do any test, or is there any information that informs you as to whether or not that's likely to be an over-prediction or an under-prediction?

A Well, again, I believe it's really quite a large over-prediction.

Q And why is that?

A Well, again, first of all, I think the -- because the mesothelioma rates, and hence the asbestos exposure in the U.K. is higher than in the U.S., I believe the ratio is higher, and so that -- if we had a more accurate ratio, a lower ratio, I would have estimated fewer cases.

Q I'm sorry. Were you done?

A No. Yes, I'm done.

Q Okay.

MS. HARDING: Your Honor, we move 2045 into Evidence as Dr. Ory's -- an accurate summary of Dr. Ory's conclusion with respect to his analysis of the maximum number of cases of asbestosis in the United States going into the future.

MR. FINCH: No objection, Your Honor.

MR. ANSBRO: No objection.

THE COURT: It's admitted.

Q Dr. Ory, at the beginning of your testimony here, I played an audio of counsel's opening argument that stated that asbestos diseases are still on the upswing in the United States. Do you recall that?

A Yes, I do.

Q Have you formed an opinion on that issue on the basis of your analysis of asbestosis and mesothelioma incidence in the United States?

A I have.

Q I'd like to talk with you about -- I'm going to actually

write it down.

(Pause)

Q Dr. Ory, let's first talk about asbestosis in the United States and the future course of asbestosis. You've just testified about your prediction about the course of that disease. The first thing that I want to ask you is did you do anything else to validate, other than what you've said already, to further validate that conclusion?

A I did a number of things.

Q Did you look to data in the U.K. first to validate that?

A That's the first thing I did.

Q What did you do?

A I looked at the age specific -- the incidence of -- I looked at ratios -- could you put up the slide? It would be a lot easier for me to explain this from the slide. It's complex. I looked at the ratio in the GPRD data, and I looked at asbestosis rates over time by age, 1989 to 2005, and so, for example, on the leftmost set of bars you can see that the number of cases of asbestosis was much lower, the incidence was much lower in -- as we went forward in time, and you can see that pattern in 30 to 54 year olds. You can see that pattern in 55 to 65 year olds. It flattens out in 65 to 74 year olds. And it goes up rather markedly in 75 year olds. And --

Q Well, I was just going to ask you why was that observation in the data important to you?

A Well, what it -- the -- what's happening in the youngest people, they're the canaries in the mine here. They are telling us that over time the asbestosis rates are dropping in the youngest people. So, it sort of tells me that -- you know, they can't start going up. They are dropping. And they're dropping quite dramatically, up through age 65, so it says to me that there's -- that this epidemic is a decaying -- there's a decay curve to this epidemic, that's the downslope, and there are no new cases coming to fill it up again, that this is an epidemic that's going to end, because there are no young people coming to fill in the slots of the people who are dying.

Q Is that a method that is commonly used at CDC to understand the progression of the disease within a population?

A Absolutely. You -- the pattern by age often gives you important clues as to what's happening to the epidemic.

Q Was there particular significance in this data in light of the fact that it was actually from the United Kingdom?

A Right. Exactly. Well, yes. Let me tell you. The U.K., of course, as we've already -- as I've already noted, has higher asbestos exposure than the U.S., so in spite of that, we're still seeing that there's no evidence of a coming wave of asbestos cases, in fact, quite the opposite. In spite of the higher exposure, in spite of the higher mesothelioma rates.

MS. HARDING: Your Honor, we would move 2047 into Evidence.

MR. FINCH: No objection, Your Honor.

MR. ANSBRO: No objection.

THE COURT: 2047 is admitted.

Q Now, Dr. Ory, with respect to the asbestosis rates in the United States, as I understand your previous testimony you don't have the same kind of good data on asbestosis in the United States as you have in the United Kingdom. Is that correct?

A There are no incident rates in the United States. That's correct.

Q Is there any data at all that you can look at, or look to, to get some idea, even though it may not be as accurate as the data in the U.K., to understand asbestosis death rates in the United States?

A You can look at asbestosis death rates in the United States.

Q Okay. What are the limitations of looking at asbestosis death rates?

A The death rates are not incident cases, and they certainly measure, with respect to asbestos disease, what happened a long time ago in terms of exposure, so it doesn't give us any inclination of the formation of new cases. What it tells us more, I think, is that whether or not the epidemic is waxing or waning.

Q Okay. Does it -- are there also limitations associated to

how the information is collected?
A Death certificates for any disease in the United States are notoriously suspect. they are not collected with the kind of rigor that some other information is. I mean, for example, when you compare mesothelioma death rates to incident rates, the death rates are generally three quarters to 80 percent. So, on a very dramatic disease such as mesothelioma, you know, you're not collecting the same information as incident cases.
Q Okay. And with respect to the disease of asbestosis in the United States in particular, are there any particular problems associated with the information from death certificates on asbestosis?
A Well, I mean, the whole reason that you can't conduct surveillance on asbestosis is there's no agreed upon surveillance definition, and so, what one person calls asbestosis and mentions on a death certificate might not be what another person calls asbestosis and mentions on a death certificate. So, it's sort of -- it gives you pause when you look at that data.
Q Is there anything -- other information that you've learned in the course of your work on the silica cases, as well as on these cases with respect to asbestosis claims and their ratio to actual disease that also gives you pause with respect to using death certificate data for asbestosis?
A Well, I mean, the whole conclusion of my findings are that

there may be as many as 14 times -- given, say, that the -- the medically plausible cases of asbestosis, there may be as many as 14 times that many who have been told, perhaps from an x-ray reading, that they have asbestosis when, in fact, they may not. So, it's quite possible that because of the situation we find ourselves in in the United States right now, that death certificates for asbestosis are particularly difficult to interpret.

Q Dr. Ory, the -- counsel for the ACC said in their opening statement that death rates from asbestosis are increasing, and even looking at the death certificate data with all of its limitations that you've just described, is that accurate?

A No. And I've prepared a slide to that effect.

MS. HARDING: 2048, please.

A In this slide I took the age adjusted death rates per million from asbestosis, that's any mention of asbestosis, and I used the NIOSH NORMS web site to get this data. It's readily available. And the age standardized death rates dropped from 17 consistently down to 15-and-a-half from 2000 to 2004, and that certainly suggests to me that in five consecutive years the death rates from asbestosis are declining.

MS. HARDING: Your Honor, we would move in 2048 into Evidence.

THE COURT: Any objection?

MR. FINCH: No objection, Your Honor.

MR. ANSBRO: No objection.

THE COURT: It's admitted.

Q Finally, Dr. Ory, I wanted to ask you about mesothelioma incidents in the United States. You've reviewed the SEER data. You've talked about it here today. What have you found in the SEER data that leads you to the conclusion that the mesothelioma rates are declining as well? I'm not sure if I said that correctly, but correct me if I didn't.

A Well, again, SEER data is readily and easily available on the web and there are actually two sort of ways of looking at it. If you put up the first slide showing the --

Q 2049? Let's see if that's it.

A That's it, yes. In this slide I looked at the first and last five years of SEER data and in the first five years of SEER data you can see that people age 20 to 54 had accounted for 28 percent of the mesotheliomas in that -- excuse me -- in that time period, whereas those over 75 accounted for only 16 and a half percent. As we move forward to the most recent five-year time period, the people 20 to 54 now account for only a third of what they used to account for. And the older people are accounting for almost half.

And this is sort of the same point that I was making when we looked at the asbestos data in the GPRD. Again, there's no wave of young people coming to fill in the epidemic. The epidemic has been, as Nicholson really described it, a

cohort of exposed people who have lived out their lives and have, as they've grown older, gotten mesothelioma, and that's what this shows.

Q Before you -- I think you have one other slide you wanted to talk about. Before you get there I wanted to ask you about actual numbers of mesothelioma because I think that was part of the discussion on Monday was the numbers of people getting mesothelioma, the actual incident cases that were still going up. Could you show what you found with respect to the actual numbers of mesothelioma, actually -- I should probably -- Your Honor, is it okay if Dr. Ory --

THE COURT: Yes.

Q Okay, thank you. So you're going to show us what the data show with respect to the numbers of mesothelioma cases in the recent history.

A I'll speak into the mic. I'm just going to -- I'll draw the numbers and I'll come back and state -- I couldn't remember them. I write them down. These are numbers from my projections of mesothelioma from SEER and CDC data to the whole U.S.

Q Okay, but with respect to the actual -- oh, from -- in other words, these are actual cases of mesothelioma that have been counted in the United States up until the most recent period?

A This is the same mechanism I used in Table 2, of the same

process I used in Table 2 of my report where I take the SEER incidents rates and apply them to the U.S. population and estimate the total number of mesotheliomas as we agreed was the standard way that everybody does it.

Q Okay, this comes then directly from the SEER data?

A That's right, SEER data and U.S. population data. So in 1990 there were about 2,080 --

Q You're going to have to talk into the mic.

A Oh, okay.

Q Want to draw it first and then explain it?

A Yes. These are the actual number of mesothelioma cases that have occurred in the United States as counted by SEER and then the Center for Disease Control which has taken over and includes the SEER data and captures almost 95 percent, 98 percent of the cases in the U.S. So the curve was rising pretty sharply from 2000 or so in 1990 to 2,200 in '95 and then in 1999 it was 2,419. It reached the peak between, in this data, between 2000 and 2002, 2,452, 2,393, 2,453 and then in the last two years it's dropped a bit, 2,370, 2,409. In fact, if you --

MR. FINCH: Your Honor, is this in men or all cases?

THE WITNESS: This is men.

Q Dr. Ory, we should probably -- your analyses in this case have been about men with mesothelioma, correct?

A Always about men.

Q And men with asbestosis, correct?
A Right. And so, for example, just to take the most recent two years, if you take the average of what's occurred here, that's 2,389 cases on average in those two years and if you take these four years, 2,429 have occurred and that actually is -- these two years are, in fact, 1.6 percent lower than these four years. So I don't think it would be proper to describe this curve as rising. It's plateaued and appears to be falling to me.
Q Dr. Ory, with respect -- before I ask you about kind of what you understand about the numbers and the expected course of them over time, the question about whether or not it's just women, you --
THE COURT: Wait, I'm sorry, what's just women?
MS. HARDING: That Dr. Ory's analysis in this case have all related to mesothelioma rates and incidents and asbestosis rates and incidents of men in the United States.
Q And, Dr. Ory, why would you conduct your analysis on men?
A First because when I made my -- first when I made my -- well, whether you use claims data or the GPRD data or deaths data, 95 to 96 percent of cases of asbestosis occur in men and actually, according to Grace data anyhow, about 96 percent of the claims are in men. So clearly this is -- and we're talking about an occupational cohort and it applies mainly to men. And Nicholson recognizes this because several places in his paper,

in his '82 paper, he points out that when he goes to -- that he's projecting using male rates.

Q Okay, did the -- first of all, you don't hold the opinion that there aren't any women in the United States who could develop mesothelioma or asbestosis as a result of asbestos exposure, correct?

A I do not hold that opinion, that's correct.

Q Okay, it's fair to say, as I understand your testimony that you -- if you had included women in any of the analyses that you did, would it have changed your opinions and your ultimate conclusions with respect to the data?

A The only thing it would have done is it would have given me a lower asbestos to meso ratio and so again, to be -- to stack the deck against myself, I thought it was better to use the higher ratio derived for men only.

Q Okay, Dr. Ory, the last thing I want to ask you about is on 2050 which is the last slide. You talked just now about the change that you described with respect to the actual number of cases. With respect to the incidents of mesothelioma, the rate of mesothelioma, what change have you observed and what does it tell you from the data?

A This is really a profound slide. When I saw this slide it really reassured me that the thrust of my analysis is correct because what this is saying is if you look at the right hand bar, that among people of all ages over the ten-year period,

men of all ages over the period 1994 to 2003, the incidents rate of new cases of mesothelioma has fallen almost between one and a half and two percent per year. That's overall, the bar on the right.

And then, even more importantly, when you look at the data in an age specific fashion as we've talked about several times before, you see this enormous fall in 20 to 54 year-olds, almost eight percent per year. That means every year there are eight percent fewer incident cases of mesothelioma in the United States than there were the year before.

And from what we saw before in the previous slide, we saw that in the beginning of this epidemic, the epidemic was -- the 20 to 54 year-olds were a large part of the epidemic. And here we see no evidence whatsoever that there could be a sort of follow on epidemic. In fact, we see exactly the opposite, that the youngest group of people, the canaries in the mine, if you will, are telling us that this epidemic is going away. And the 55 to 64 and 65 to 74 are also showing sharp decreases. The only increase are in the 75 and above and that's completely consistent with the concept of people who were exposed a long time ago now manifesting with a long waiting period their mesothelioma.

So as to me, I can't overemphasize that to me as an epidemiologist this slide really assures me that I've been on the right track.

MS. HARDING: Your Honor, we would move -- I can't read the exhibit number and I already put it away.

THE COURT: 2050.

MS. HARDING: Thank you. 2050 into evidence.

MR. FINCH: No objection, Your Honor.

MR. ANSBRO: No objection.

THE COURT: It's admitted.

MS. HARDING: And, Your Honor, I tender the witness to the claimants.

THE COURT: Mr. Finch?

THE WITNESS: Could I take a break?

THE COURT: Yes, we'll take a five-minute recess. All right, thank you.

(Recess)

THE COURT: All right, please be seated. Doctor? Mr. Finch?

MR. FINCH: May I approach the witness, Your Honor?

THE COURT: Yes.

CROSS EXAMINATION

BY MR. FINCH:

Q Dr. Ory, do you recognize ACC FCR Exhibit 1 as Dr. Nicholson's paper that forms the basis of some of your testimony here?

A I do.

Q And you regard this as a reliable source for projections

of asbestos-related mesothelioma and lung cancer?
A Yes, at least mesothelioma. I've really not examined it for lung cancer.
Q Okay, with respect to mesothelioma you regard it as reliable?
A Yes.
Q And sound science?
A Yes.
Q And in the abstract Dr. Nicholson and other researchers at Mount Sinai write that 18.8 million people had exposure in excess of that equivalent to two months' employment in primary manufacturing or as an insulator, greater than --
THE COURT: Mr. Finch, I'm sorry, you're going way too fast.
MR. FINCH: sure.
Q On the first page Dr. Nicholson writes that 18.8 million people had exposure in excess of that equivalent to two months' employment in primary manufacturing or as an insulator, greater than two to three fiber years, correct?
A Yes.
Q And this entire paper is based on cumulative exposure to asbestos, correct?
A Yes.
Q There's no company specific or product specific epidemiology in this work, correct?

A I believe that's correct.
Q And isn't it the case there's no company specific product, specific epidemiology in the medical literature?
A In the published medical literature, that's probably correct. Well, there's probably aspects, for example, Alex Walker published the estimate that he made for Manville, I think, and I'm not sure actually as I sit here and think whether that's just Manville or all cases so --
Q As you sit here you can't think of any medical or epidemiological literature has company specific exposures only?
A Generally, that's probably true.
Q Okay, could you turn to Page 300 of the Nicholson paper? Excuse me, Page 296. What Dr. Nicholson did is make estimates of the population exposed to asbestos and apply that to that, dose response rates to project the future, time course of asbestos-related mesothelioma, correct?
A I'm sorry, slow down?
Q Sure. What Dr. Nicholson did in this paper and his colleagues did in this paper was to take -- make an estimate of the total population of people occupationally exposed to asbestos, apply to that assumptions about amount of exposure and the dose response relationship that exists in the epidemiological literature and project the future course of asbestos-related mesothelioma in the United States?
A That sounds about right, yes.

Q Okay, and the population, the estimated population exposed was all workers and included both men and women to the extent there are women in the labor force, correct?
A That's correct.
Q And so you had shown up here the SEER data for mesothelioma that's among men and that's taken from a combination of SEER 13 data and the CDC, is that correct?
A Yes, and SEER 9, yes.
Q And SEER 9, okay. SEER has published updated data from -- related to mesothelioma and something called the SEER 17 registry?
A That's correct.
Q Could you explain to me the difference between the SEER 13 registry and the SEER 17 registry?
A The SEER 17 registry covers about 25 percent of the U.S. population. The SEER 13 registry covers about 13 percent of the U.S. population. And then that, of course, has all been superseded by the CDC which now covers almost 100 percent of the population.
Q And the -- and what's the relationship between -- you were showing some slides, some exhibits that has something called the Norms data base. What's the Norms data base?
A The Norms data base is non-occupational-related mortality data base which is also part of CDC.
Q And that's the actual counts of deaths based on death

certificate data?
A That's correct.
Q Okay, and you regard the Norms data as informative in your work here?
A Well, as I said, I regard death certificate data as less reliable than incidents data.
Q So death certificate data will be less reliable than the SEER incidents data, correct?
A Than the SEER or CDC incidents data, yes.
Q Okay, and the death certificate data, I believe you said only capture about three-quarters to 80 percent of the mesothelioma deaths, is that right?
A Of the incident cases. So if you look at any given, you know, five-year period, maybe there'll, you know, be 10,000 incident cases of mesothelioma according to the CDC, United States Cancer Surveillance and if you look at death certificates for the same time there might be 7,500 or 8,000.
MR. FINCH: Could I have Exhibits 2028 and 2033, if we could show them both on the screen? Your Honor, may I please approach the bench and the witness?
THE COURT: Yes.
Q You said before in your direct testimony that you (1) could go to the website for an answer for SEER and find the SEER registries, correct?
A That's correct.

Q Do you recognize what's been marked as ACC-2033 as the SEER 13 registry for showing the age-adjusted meso rate for males and females between 1995 and 2004?
A Yes, that's what the title says, yes.
Q And the ACC-FCR-2028 shows the mesothelioma rate for all ages from the SEER 17 for the 2000 and 2004 time period?
A That's right.
Q And would you agree with me that using SEER 17 data the age adjusted rate for men is 2.05?
THE COURT: I'm sorry, Mr. Finch, I apologize, but I didn't follow. Would you restate your question for me?
MR. FINCH: Yes.
Q Would you agree with me that the age adjusted rate of mesothelioma incidents for men in using the SEER 17 registry data which is ACC-FCR Exhibit 2028 shows an age adjusted incidents rate of 2.05?
A Yes, for 2000 to 2004.
Q And 2.05 is --
MS. HARDING: If you could just direct where you're pointing to on the thing.
MR. FINCH: Sure, sure. For Your Honor --
Q (Inaudible), correct?
A Yes.
Q If you look at the same column for the SEER 13 registry, the age adjusted rate for men is, for the 1995 to 2004 time

period, is 1.9179, right?
A That's correct.
Q And 2.05 is slightly higher than 1.91, correct?
A That's correct.
Q And the way you're getting to the calculations (indiscernible) age-adjusted rates broken down by age (indiscernible) population to get to these --
A Using the CDC data.
Q So you didn't use the SEER 17 data. You used the CDC data?
A That's correct.
Q But you could do it using the SEER 17 data using estimates of the U.S. population, correct?
A I wouldn't do that because SEER 17 only has a quarter of the U.S. population. Why would I look at the quarter when I have all of the U.S. population to look at? I would regard the CDC data as more accurate.
Q CDC doesn't have data for --
UNIDENTIFIED SPEAKER: Just use one mic.
MR. FINCH: Sure.
Q CDC doesn't have the data for 2006 or 2007, correct?
A That's correct.
Q And the incidents rate from the SEER data is a number of cases per 100,000 of population, correct?
A Or per million, whatever.

Q Well, isn't it per --
A I mean I'd have to look. I always do it per million. I don't know how you did it.
Q Well, if you look at the last page of Exhibit 2028, for example --
A Okay, yes, these are per 100,000.
Q Yes.
A Yeah.
Q And the mesothelioma age-adjusted rate in women is about one-fifth as it is for men, correct?
A Yes, that's correct.
Q And so if you added the mesotheliomas in women to the mesotheliomas in men, you would come up with a count of mesothelioma deaths that's about 20 percent higher than what you show on the chart there, correct?
A That's correct.
Q So for 2004 there would be about 2,800 mesothelioma deaths?
A Mesothelioma incident cases.
Q Okay, and so if someone said that there were 2,600 or 2,700 mesotheliomas a year in the United States now, they would be -- it wouldn't be wrong?
A Oh, I see, you mean if they're counting women?
Q Yes.
A Yes, if they're counting women.

Q And women do get asbestos-related mesothelioma, correct?
A Yes, they do.
Q Now you, in your estimates of asbestosis, you related the incidents rate of asbestosis to the incidents rate of mesothelioma, correct, or actually, vice versa?
A I've related the incidents of asbestosis to mesothelioma, correct.
Q Okay, and the reason you did that is because those are both asbestos-related diseases, right? You didn't compare the incidents rate of mesothelioma to the incidents rate of breast cancer cases, for example?
A That's correct.
Q And the reason you did that is because there are no confounding causes of asbestosis other than exposure to asbestos, correct?
A Asbestosis is only caused by asbestos exposure, that's correct.
Q Okay, and there is no epidemiologically-established cause of mesothelioma in the United States other than asbestos exposure, correct?
A Well, that's an odd way to say it. I would say a large majority of mesothelioma cases in the United States are caused by asbestosis but not all of them.
Q There's nothing that has been shown to double the risk for mesothelioma in the United States other than asbestos exposure,

correct?
A That's true.
Q Now --
A I would just like to add -- let me add to that question. You know, it just always comes up --
MR. FINCH: Your Honor, there's not a question pending.
THE WITNESS: All right.
THE COURT: The witness is entitled to explain his answer if that's what he's going to do. If you're going to explain your answer --
THE WITNESS: Right, yes.
THE COURT: -- you may explain your answer.
THE WITNESS: I mean there's no disease that I know of that -- there's no cancer that I know of that has only a single cause. There's always, even in something like mesothelioma where asbestosis causes a majority -- asbestos causes a majority of cases, there has to be other causes because -- just because we don't know them, it doesn't mean they're not there.
Q But there's nothing that has been scientifically determined to double the risk of mesothelioma other than asbestos?
A That's correct.
THE COURT: May I ask the witness a question please?

Doctor, at one point you said meso cases caused by asbestosis, in another you said by exposure to asbestos. Did you mean by asbestosis or did you mean by exposure to asbestos?

THE WITNESS: I mean by exposure to asbestos.

THE COURT: Thank you.

Q In Dr. Nicholson's paper, in addition to showing mesothelioma death rates, he also has projections of what he calls excess lung cancers. Do you see that in the paper when you read it?

A Yes.

Q Could you define what's an excess lung cancer as Dr. Nicholson used it?

A Actually, it's a difficult thing to define because obviously smoking is so strongly related to causing lung cancer, I've always had some trouble understanding how one determines excess deaths from asbestos-related lung cancer. But I understand Nicholson did that in -- I understand he did that.

Q And he used the same basic methodology using the estimated exposures and those response curves to project the excess lung cancer deaths as he did for the mesotheliomas but using different dose response because the dose response levels are different, but the same approach. You take the exposed population, apply the dose response and project the future deaths?

A That's true. What I'm saying is I have trouble understanding how you pick out the asbestos-related lung cancers from the smoking-related lung cancers. I understand after he did that that yes, that he projected them forward.

Q And you're aware that there's -- have you read medical literature that states that there's a synergistic effect between asbestos exposure and cigarette smoking on the incidents of the lung cancer?

A I am aware of that and I'm aware there's some, you know, the exact level of synergy is certainly open to question.

Q And by synergy, what that means is if you have a one out of ten chance of getting lung cancer if you're -- or ten times the background rate of getting lung cancer if you're a smoker and double the background rate of getting lung cancer if you're exposed to asbestos, when you combine the two, you have much more than an additive effect. It's much more than 12. It's more like 20 or 30, correct?

A Some people use an additive; some people use multiplicative. And some of the data here is more than additive. Some is multiplicative. It's -- there's a lot of data and it's hard for me to reach a consensus on it.

Q Okay, would you agree with me there is a dispute in the medical literature about whether or not asbestosis is a necessary intermediary step to have asbestos-related lung cancer?

A Yes.
Q So there are experts on both sides of that question? There's medical literature on both sides of that question?
A Yes.
Q I think -- could you explain your understanding of what I meant by asbestosis being a necessary intermediary for asbestos-related lung cancer?
A I'm sorry?
Q Could you explain -- let me rephrase my question. When I asked a question about asbestosis being a necessary intermediary for asbestos-related lung cancer, what I meant is that some medical literature and medical experts take the view that lung cancer can be attributed to asbestos exposure only if the patient has asbestosis, correct?
A Yes.
Q Other medical experts and medical literature takes the view that you can have lung cancer that is caused by asbestos exposure even if there is no detectable asbestosis in the patient, correct?
A Yes.
Q And there are experts on both sides of that question?
A I've read papers on both sides.
Q You've read papers and peer reviewed medical journals on both sides of that question?
A Yes.